CONCERNING RATES OF UTILIZATION OF SOME OF THE FOREST RESOURCES, AND THEIR ECONOMIC IMPORTANCE, IN CANADA[1]

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The economic life of a new or pioneer country is at first entirely dependent upon the raw natural resources of the country. Later on as the original supply dwindles, is depleted or exhausted, the people turn to manufacturing, farming, fishing, shipping, and similar pursuits which do not require further gross depletion of the available resources, but rely more upon efficient and more nearly complete utilization of these raw resources.

Canada is a fairly young country by most standards, but it is a land of such great area and such low population that the development of an independent and natural internal economy has resulted in the expenditure of a vast amount of her best resources, both timber and mineral, in an effort to become more self-sufficient.

Fur, fish, and forests have served as the basic commodities for trade for the past 200 or more years. Serious exploitation of the timber resources has taken place during the past 100 years, with the resulting depletion of available first grade timber.

During the past 40 to 50 years, however, there has been a strong effort made to establish a workable program to conserve the chief natural resources, and to replenish these wherever possible.

In some areas which were studied recently, a program of reforestation and improvement in land use has been suggested and first steps appear to have been taken to initiate an effective cutting and forest management program. For the most part, however, the large lumber and pulpwood operators and associated industries have "managed" the areas which they hold under lease or otherwise control. In scattered areas, however, where the cutting is under individual lease or contract, little effort is made to do any selective cutting, with the result that any tree of six inches diameter may be cut and used for pulpwood or stovewood. This is particularly true of cut-over areas of western Quebec.

Some statistics may serve to point out the value of the wood and timber resources of Canada, and show some of the value of both the primary and secondary forest products to the United States.

LAND AND WATER AREAS:			
Area of Canada (exclusive of Labrador and Newfoundland):			
Land Area	3,462,103	square miles	
Water Area	228,307	"	"
Total Area	3,690,410	"	"
Area of Labrador	110,000	"	" (approximate)
Area of Newfoundland	42,734	"	" "
Total Area at present	3,843,144	"	"
Area of United States and Dependencies	3,738,395	"	"
Area of United States	3,022,387	"	"
Area of Alaska	586,400	"	"
Area of Europe	3,776,700	"	"
POPULATION:			
Canada			11,506,655
Labrador			4,716
Newfoundland			313,000
Total			11,824,371
United States (1940)			131,669,275
Alaska (1940)			72,524
United States 1950 estimate—between 149 and 150 millions.			

[1]Based on a paper, "Rape of the Bush," presented before the Ohio Academy of Science, Capital University, April 28, 1950.

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Distribution of Canadian population:	
Urban centers	5,572,058
Rural Districts	4,804,728
Other	1,129,869 (approximate)

Agriculture ranks first in primary and secondary industries in Canada with a value in 1947 of $1,579,604,000. The agricultural lands in 9 provinces totals approximately 1,276,109,440 acres. The potential agricultural land is estimated at 352,157,190 acres. About 60 million acres are in field crops, while 8,250,000 acres are in pasture.

Forestry and forest products rank second in Canadian industries with a value in 1947 of $953,918,800. Since then, however, there has been further increases in utilization and, as a result, increases in the value of the primary and secondary products. By 1950, 37% of the land area of Canada, and 58% of the land area of the nine provinces are occupied by forests.

	1945	*1949*
Productive Forest	38.3%	32.7%
Softwood	23.3%	17.7%
Mixedwood	10.5%	10.5%
Hardwood	4.5%	4.5%
Non-productive Forest	20.0%	24.8%
Non-forested Land	41.7%	42.5%

	1947	*1949*
Productive Forested Lands	813,110 square miles	701,232 square miles
Non-productive Forested Lands	477,850 " "	573,608 " "
Non-forested Lands	2,171,143 " "	2,187,263 " "
Total Land Area of Canada	3,462,103 " "	

Net value of production of the primary and secondary industries of Canada, for 1947	$7,765,415,275
Agriculture	1,579,604,000
Forestry	953,918,800
Mining	552,309,949
Electrical Power	233,860,860
Fisheries	110,088,471
Trapping	16,842,966

Employment in the logging industry, as of 1 December, 1949, for establishments of 15 or more men, reveals that for Canada 73,952 men were employed. Of this total, 17,992 were employed in Ontario, while 33,751 worked at logging in Quebec. Thus, more than two-thirds of the numbers employed in logging worked in two provinces alone.

Based on information available prior to 1948, 58.3% of the provincial lands were forested. Of this, 20% was non-productive forested land and 38.3% produced the wood and timber for the trade. Of the total land area of Canada, including the Northwest Territories and Yukon, but excluding both Labrador and Newfoundland, only 37.3% of the land area is forested, and 23.5% is productive forest land, while 13.8% is in non-productive forests. Exclusive of Labrador and Newfoundland, Canada has 62.7% of the land area unforested, while only 41.7% of the provincial land area is non-forested.

Total Merchantable Forest Types:	*1945*	*1949*
CANADA	392,085 square miles	294,180 square miles
Percentage of Land Area	11.3%	8.5%
9 PROVINCES	384,085 " "	286,180 " "
Percentage of Land Area	19.2%	14.3%
Quebec	229,840 " "	131,985 " "
Ontario	66,900 " "	66,900 " "
British Columbia	35,400 " "	35,400 " "

	1945	*1949*
Total Young Growth:		
CANADA	421,025 square miles	407,052 square miles
Percentage of Land Area	12.2%	11.7%
9 PROVINCES	382,025 " "	368,052 " "
Percentage of Land Area	19.1%	18.4%
Quebec	72,860 " "	58,680 " "
Ontario	106,900 " "	106,900 " "
British Columbia	50,490 " "	50,492 " "
Non-productive Forested Land:		
CANADA	477,850 square miles	573,608 square miles
Percentage of Land Area	13.8%	16.6%
9 PROVINCES	401,850 " "	497,608 " "
Percentage of Land Area	20.0%	24.8%
Quebec	69,590 " "	165,394 " "
Ontario	63,400 " "	63,400 " "
British Columbia	128,500 " "	128,564 " "
Non-forested Land:		
CANADA	2,171,143 square miles	2,187,263 square miles
Percentage of Land Area	62.7%	63.2%
9 PROVINCES	835,359 " "	851,479 " "
Percentage of Land Area	41.7%	42.5%
Quebec	151,570 " "	167,801 " "
Ontario	126,082 " "	126,082 " "
British Columbia	144,829 " "	144,823 " "

In 1947, primary forest production rose to a value of $519,804,128, representing the utilization of 3,091,086 units (1000 cubic feet) of merchantable timber. Of this amount, Quebec produced 1,114,018 units, British Columbia yielded 666,142 units, and Ontario produced 613,919 units. During the same period, a total of 5,877,901 units (1000 feet board measure) of lumber were produced in Canada, with a value of $322,048,356. Of this, British Columbia produced 2,707,052 units with a value of $164,199,747; Quebec ranked second with a total of 1,227,055 units and a value of $63,258,288; and Ontario stood third in production with some 733,129 units having a value of $41,526,059. Ontario produced 2,130,838 rough cords of fuelwood, with a value of $13,473,594, while Quebec produced 3,897,013 rough cords, with a value of $17,678,762.

Of accessible productive forested land, Ontario has 52,500 square miles in merchantable timber and 95,100 square miles in young growth—a total of 147,600 square miles, while Quebec has 95,087 square miles of merchantable timber and 50,305 square miles of young growth, with a total area of 145,392 square miles of timber lands.

In 1948, wood pulp production for Canada reached a level of 7,675,079 tons, with a value of $485,966,164. At the same time, paper production was in the vicinity of 6,063,646 tons, with a value of $582,346,842. For the same period, the apparent production of pulpwood in rough cords for Ontario was 3,390,284 units, an increase of 257,666 rough cords over the 1947 level of production; while Quebec produced 6,321,800 units, an increase of 374,837 rough cords over the 1947 level. The attending value of production of pulpwood for 1948: Ontario—$76,830,250, an increase of $14,648,708 over 1947; Quebec—$148,384,145, an increase of $19,645,567 over 1947. Exports of primary forest products, in 1948, amounted to $66,186,095, an increase of more than $10,000,000 over the 1947 level.

CANADIAN LUMBER EXPORTS

(Units of 1000 feet board measure)

	1947	*1948*
All countries	2,735,027	2,467,740
United Kingdom	1,121,244	565,653
United States	1,065,216	1,625,223

There was a decrease in the total exports, in one year, of 267,287 units. The United Kingdom reduced imports from Canada by 555,591 units, while the United States increased imports from Canada by 550,007 units.

In 1948, total woodpulp exports amounted to 1,797,998 tons, with a value of $211,564,384. This represents an increased production of 99,286 tons over the 1947 level, and an increased value of $33,761,772. Of this, 170,596 tons were exported to Great Britain, an increase of 33,620 tons over 1947 exports; and 1,590,674 tons were exported to the United States, an increase of 91,373 tons over the 1947 business level.

Exports of paper in 1948 had a total value of $416,681,607, representing an increase of $43,611,269 over the previous year. Of this, 4,328,083 tons of newsprint had a value of $383,122,743. This represents an increased production-export of 107,304 tons in one year, with an increase of $40,829,585 for the same period. Of the total exports of paper, for 1948, the United Kingdom used 101,050 tons at $10,603,445, of which 60,690 tons were newsprint costing $5,319,660; the United States imported 4,067,709 tons of paper at a cost of $354,176,645, and 3,917,366 tons of this paper, with a value of $340,334,045, was in the form of newsprint.

These few facts and figures may serve to give an idea of the value of the forest products of Canada, and to a somewhat less extent, the importance and value of wood-products which are imported by the United States from our closest neighbor, Canada.

During the past few years there has been a phenomenal increase in the utilization of Canadian forest products. Comparisons can be made on utilization during 10 years of depression (1930–1939), six years of war (1940–1945), and two to three years of post-war prosperity. In the following tables, only averages (for a one year period) are used.

PRIMARY FOREST PRODUCTION
(Logs and Bolts, Pulpwood, Fuelwood, etc.)

1930–1939	$174,806,145
1940–1945	257,768,977
1946–1947	466,536,721

PRIMARY FOREST PRODUCTION
(In 1000's of cubic feet of Merchantable Timber)

Period	*Canada*	*Ontario*	*Quebec*
1930–1939	2,011,323	440,631	685,846
1940–1945	2,586,527	496,430	946,174
1946–1947	2,951,902	589,210	1,092,159

LUMBER PRODUCTION
(In 1000's of feet Board Measure)

Period	*Canada*	*Ontario*	*Quebec*
1930–1939	3,096,941	411,635	501,645
1940–1945	4,649,208	581,487	953,699
1946–1947	5,480,590	703,285	1,194,331

WOOD PULP PRODUCTION
(Total for Canada)

1930–1939	$ 87,520,735	3,739,583 Tons
1940–1945	192,337,261	5,460,475 "
1946–1948	392,381,208	7,181,389 "

PAPER PRODUCTION
(Total for Canada)

1930–1939	$141,880,985	3,160,054 Tons
1940–1945	244,999,424	4,241,936 "
1946–1948	495,468,170	5,728,615 "

The annual value of Primary Forest Products for the post-war period is more than 250% greater than the average value for the ten year period of the depression. While the production of woodpulp is just less than double the depression production level, the value for the output has more than doubled per unit product.

From the above information, it might well be assumed that, at the present rate of forest products utilization, Canada may soon be faced with severe shortages in timber and pulpwood resources. While this would be true, in the absence of proper management practices, it is safe to say that many of the leaders in Canada are alert to the importance of the problem, and are taking some steps to avert excessive and gross depletion of this basic material which plays so important a part in the general Canadian economy. In the event of another war, at an early date, further depletion of the forested areas will undoubtedly occur. What ultimate effect this would have on the productivity of the forested areas cannot be adequately assayed at the present time. Needless to say, with the present rapid growth and expansion in the population and in industry in the United States, it is necessary to look to Canada to obtain many of the materials and products which are considered essential to our own way of life.

Inexcusable waste of natural resources has followed with man's exploitation of new lands, but continued wastage ultimately results in serious want. One of the largest causes of losses in forest resources results from fire. The annual forest fire losses in Canada, for the period 1939–1948 are reported to be as follows:

Merchantable Timber	439,389 acres
Young Growth	402,433 acres

Fires by Causes	Number	Percent
Smokers	1,049	19.8
Campfires	852	16.1
Settlers	658	12.5
Railways	501	9.5
Incendiary	187	3.5
Other man-made causes	684	12.9
Unknown	378	7.2
Lightning	979	18.5

The total estimated losses, including fire-fighting costs, each year amounts to $4,888,221.

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REFERENCE

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